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EXAMINER

SHIH, HAOSHIAN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/681,585	Applicant(s) LEHTONEN, JARMO	
	Examiner Haoshian Shih	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-19 are pending in this application and have been examined in response to application RCE filed on 07/30/2007.
2. Claims 2 and 20 are canceled by the applicant.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 and 3-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inukai (US 2001/0015720 A1) and of Oueslati et al. (Oueslati, US 6,806,865 B2).**

5. As to **INDEPENDENT** claim 1, Inukai discloses an apparatus for use in providing user inputs to a communication or computing device, comprising:

an input button (Fig 8, "1") for receiving a force exerted on the input button via the indicator instrument (Fig 8, #22; [0036], lines 4 – 6; "stick member" is the indicator instrument); and

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means disposed proximate to the receptacle for detecting the force exerted on the input button via the indicator instrument (fig.1, "2") based on the input button moving or deforming in response to the force ([0035], lines 1 - 5) and for providing a signal corresponding to the force ([0035], lines 1 - 5),

said means comprising motion or strain sensors disposed on opposite sides of the input button and configured to detect a rotational force (fig.8, "8a", "8b", "8c" and "8d"; 4 sensors opposite of each other are indicated, further the user can communicate a rotational force by moving the indicator instrument in a continuous manner to interact with the different sensors). Inukai does not disclose an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface and having a cavity or receptacle formed on the exposed surface for receiving an end portion of an indicator instrument unattached to the input button.

Oueslati discloses an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface and having a receptacle formed on the exposed surface for receiving an end portion of an indicator instrument (fig.2; fig 5; fig 3, "125", "128", "230").

It would have been obvious to one of ordinary skill in the art, having the teaching of Inukai *and* Oueslati before him at the time the invention was made, to modify the input

detection taught by Inukai to include a detachable input device taught by Oueslati with the motivation being to provide portability of handheld devices (col.1, lines 34-39).

6. As to claim 3, Inukai discloses an apparatus wherein the means for detecting the force exerted on the input button comprises a sensor array that transmits a signal corresponding to the force at least in respect to the direction of the force ([0060], line 6 - 10).

7. As to claim 4, Inukai discloses an apparatus, wherein the means for detecting the force exerted on the input button comprises a sensor array that transmits a signal corresponding to the force at least in respect to the magnitude of the force ([0060], line 6 - 10).

8. As to claim 5, Inukai discloses an apparatus; wherein the means for detecting the force exerted on the input button comprises a sensor array that transmits a signal until the force is removed ([0057], line 1-5; [0060], line 6 - 10).

9. As to claim 6, Inukai discloses an apparatus, where in the input button moves or deforms as to communicate to the means for detecting the force exerted on the input button corresponding to a user action ([0058], [0060]) selected from the set consisting of clicking, scrolling, selecting, pointing, cursor positioning, key pressing or typing, and joystick manipulating ([0050], last two lines; "click").

10. As to claim 7, Inukai discloses an apparatus, wherein the input button is provided so as to moves or deform in response to a force lying along the surface of the communication or computing device ([0058]).

11. As to claim 8, Inukai discloses an apparatus wherein the input button is provided so as to moves or deform in response to ([0058]) a force directed orthogonally to the surface of the communication or computing device (fig.1, [0050], last two lines; the pointing stick is positioned orthogonally to the surface, and a clicking input that happens on the Z-plan of the screen can be communicated).

12. As to claim 9, Oueslati discloses the input button is so shaped as to allow imparting a force couple via the indicator instrument (col.4, lines 30-37; the input button may be utilized to receive a variety of elongated elements) and so tending to cause a change in pitch of the input button relative to the surface of the communication or computing device, and where in the input button moves or deforms in response to the rotational force (fig.5; fig.6; col.3, lines 40-43; the input button may be configured to communicate a 360 degrees rotational motion).

13. As to claim 10, Inukai discloses the input button and means for detecting the force exerted on the input button are in combination provided as a box-in-box construction including an outer box and an inner box, the outer box having sensing

means responsive to forces applied to the inner box via the end portion of the indicator instrument for providing a corresponding signal indicating a user input (fig.8, "3", "8a"- "8d", "22"); [0038], lines 25-27; the surface area 3 with sensors "8a"- "8d" provides the construction of the outer box, and the insertion point "22"). Inukai does not disclose the inner box provided as the flattened shape having the indentation formed on the exposed surface.

In the same field of endeavor, Oueslati discloses the inner box provided as the flattened shape having the indentation formed on the exposed surface (fig.3, "125", "128", "230"; fig.5, "125", "128", "230").

14. As to **INDEPENDENT** claim 11, Inukai discloses a method for acquiring user inputs to a communication or computing device, comprising:
receiving an end portion of an indicator instrument (fig.1, "2") in a receptacle of an input button lying in or on a surface of the communication or computing device (Fig 8, #22; [0036], line 12 - 15); and wherein the input button moves or deforms in response to forces exerted on the input button via the end portion of the indicator instrument ([0058], line 4 - 6); and

providing a signal indicative of rotation using motion or strain sensors disposed on opposite sides of the input button and configured to detect a rotational force applied to the input button via the indicator instrument (fig.8, "8a", "8b", "8c" and "8d"; 4 sensors opposite of each other are indicated, further the user can communicate a rotational

force by moving the indicator instrument in a continuous manner to interact with the different sensors). Inukai does not disclose an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface and having a cavity or receptacle formed on the exposed surface for receiving an end portion of an indicator instrument unattached to the input button.

Oueslati discloses an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface and having the receptacle formed on the exposed surface for receiving an end portion of an indicator instrument unattached to the input button (fig.2; fig 5; fig 3, "125", "128", "230").

It would have been obvious to one of ordinary skill in the art, having the teaching of Inukai *and* Oueslati before him at the time the invention was made, to modify the input detection taught by Inukai to include a detachable input device taught by Oueslati with the motivation being to provide portability of handheld devices (col.1, lines 34-39).

15. As to claim 12, Inukai discloses a method, providing a signal indicative of a sliding motion of the input button ([0058], line 3-5; the deformation of the cross area 7 represents a sliding motion).

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16. As to claim 13, Oueslati discloses the moving or deforming of the input button includes a rocking motion (col.3, lines 30-32; left and right movement).

17. As to claim 14, Inukai discloses providing a signal indicative of a motion of the input button into or out of the surface of the communication or computing device ([0056], line 7-10).

18. As to claim 15, Inukai discloses a method, providing a signal indicative of a motion of the input button substantially in the plane of the surface of the communication or computing device ([0056], line 7 – 10).

19. As to claim 16, Inukai discloses a method, wherein the indicator instrument is used to provide user inputs that would otherwise be provided using a keyboard ([0004], line 3 –5).

20. As to claim 17, Oueslati discloses the inner box is so shaped as to allow imparting a rotational force couple (fig.5) via the indicator instrument (col.4, lines 30-37; the input button may be utilized to receive a variety of elongated elements) and so tending to cause a change in pitch of the input button relative to the surface of the communication or computing device, and wherein the sensing means are for providing a signal indicative of the rotational force (fig.5; fig.6; col.3, lines 40-43; the input button may be configured to communicate a 360 degrees rotational motion).

21. As to **INDEPENDENT** claim 19, Inukai discloses an apparatus for use in providing user inputs to a communication or computing device, comprising: an input button for receiving a force exerted on the input button via the indicator instrument (Fig 8, #22; [0036], line 12 - 15); and a sensor array disposed proximate to the receptacle for detecting the force exerted on the input button based on the input button moving or deforming in response to the force ([0038], line 25 - 27), and for providing a signal corresponding to the force ([0035], line 1 - 5), said sensor array comprising motion or strain sensors disposed on opposite sides of the input button and configured to detect a force couple applied to the indicator instrument tending to cause a rotation of the indicator instrument (fig.8, "8a", "8b", "8c" and "8d"; 4 sensors opposite of each other are indicated, further the user can communicate a rotational force by moving the indicator instrument in a continuous manner to interact with the different sensors). Inukai does not disclose an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface for receiving an end portion of an indicator instrument unattached to the input button.

Oueslati discloses an input button provided as a flattened shape lying in or on and nearly flush with a surface of the communication or computing device so as to have an exposed surface and having a cavity or receptacle formed on the exposed surface for

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receiving an end portion of an indicator instrument unattached to the input button (fig.2; fig 5; fig 3, "125", "128", "230").

It would have been obvious to one of ordinary skill in the art, having the teaching of Inukai *and* Oueslati before him at the time the invention was made, to modify the input detection taught by Inukai *to* include a detachable input device taught by Oueslati with the motivation being to provide portability of handheld devices (col.1, lines 34-39).

22. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inukai, Oueslati and Hyun et al. (Hyun, US 2003/0125094 A1).

As to claim 18, Inukai and Oueslati does not disclose the indicator instrument and an indicator holder for storing the indicator when the indicator is not in use, wherein the indicator holder is attached to the side of the communication or computing device or integrated into a cover for the communication or computing device, and is shaped so as to allow snapping to a holding position when the indicator is pressed onto the holder.

In the same field of endeavor, Hyun discloses the indicator instrument and an indicator holder for storing the indicator when the indicator is not in use, wherein the indicator holder is attached to the side of the communication or computing device or integrated into a cover for the communication or computing device, and is shaped so as to allow

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snapping to a holding position when the indicator is pressed onto the holder (fig.6, "102", "30"; [0033]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Inukai and Queslati and the teachings of Hyun in order to provide a way to store the indicator when the indicator is not in use.

Conclusion

23. A further definition of how a rotational force is detected (spec, pg.7, lines 24-27; "**simultaneously** push down on one side... and push up and away on the opposite side... **impressing** a couple or **rotational force**") may over come current prior art rejection.


24. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

HSS


TADESSE HAILU
Patent Examiner